

### REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated September 17, 2008. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

#### Status of the Claims

Claims 4, 8 and 20-25 are under consideration in this application. Claims 6-7, 12 and 14-19 are being cancelled without prejudice or disclaimer. Claims 4 and 8 are being amended, as set forth in the above marked-up presentation of the claim amendments, in order to correct formal errors and/or to more particularly define and distinctly claim applicant's invention. Claims 20-25 are being added.

All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter or new issue is being introduced into the application through the submission of this response.

#### Prior Art Rejections

Claims 4, 6, 12, and 14 were still rejected under 35 U.S.C. §103(a) as being unpatentable over Norcott et al. (US 6,775,518) in view of Morton et al. (US Publication No. 2005/0216443), claims 7-8 and 15-19 were still rejected further in view of Remschel (US Patent No. 6,411,796). These rejections have been carefully considered, but are most respectfully traversed.

The invention not only extracts text information and/or drawing information from the video information included in the class information, extracts text information from the audio information included in the class information, and correlates the video information with the lecture-related information by comparing the text information and/or the drawing information with the lecture-related information (cancelled claim 2), but also adds time information relating to lecture contents comprising the source of the text information and/or the drawing information to the extracted text information and/or drawing information, and extracts words from the text information, extracts time information on locations where specified words frequently appear in the text information, and selects the video information corresponding to the time information (original claim 4). The analyzer adds time information relating to lecture

contents to the extracted text information per sentence and/or to the extracted drawing information per drawing. The matcher section extracts words from said extracted text information and said extracted drawing information, extracts time information on word locations where specified words frequently appear in said extracted text information and said extracted drawing information, extracts said video information corresponding to said specified words in each sentence or in each drawing with said time information, extracts said audio information corresponding to said specified words in each sentence with said time information. Said send section sends practice problems including plural problems each of which relates to said lecture contents as said lecture-related information, and said control section selects lecture contents to be sent among lecture contents linked with each of said problems included in said practice problems based on true-false judgment results of replies to each of said problems included in said practice problems sent from said student terminal (claim 5).

As recited in claim 4, the matcher section stores said extracted words, said extracted time information, said extracted video information and said extracted audio information in a relationship collating to each other along a time axis in time-spans during each of which the specified words frequently appear in said extracted text information (Fig. 10; S3003 in Fig. 11; S3—9 in Fig. 12; [0089]-[0091] of the corresponding US. Pub. No. 2004/0254983; [0093]-[0096]; “*collates the extracted drawing information with the digital board drawing data contained in the integrated data-with-time-span*” [0097]; [0102]-[0104]).

As recited in claim 21, said control section extracts sections of video frame data contained in said selected lecture contents and within time-spans during each of which the specified words frequently appear in said extracted text information, and creates supplemental learning contents based upon said sections of video frame data to send to said student terminal (claim 6; step S3012 in Figs. 11-12; [0105]).

Claim 23 includes all features recited in claims 4 & 21.

As recited in claims 8, 22 and 24, the information management server further comprises a grouping section for sorting students into groups based on replies to said lecture-related contents (claim 7). The grouping section determines a tutoring start time by calculating an optimum time from desired tutoring times sent from the respective students included in the group (S7004 in Fig. 16; [0126]). The grouping section extracts a reply source terminal from each of the replies to said lecture-related contents, and sorts said students into groups based on the inclusive relation of said source terminal.

As recited in claims 20 and 25, said matcher section compares a time span start time and a time span end time of each of said time-spans of said extracted video information and said extracted audio information, finds overlaps among said time spans, sets an overlap flag for each overlap among said time-spans, stores said overlap flag with said extracted video and audio information as overlap flag data ([0094]; [0100]; S3005 in Fig. 11), searches within said overlap flag data for a hit word contained in an instructional material and review problem contents, finds overlap flag data containing the hit word, and creates review problems based upon found overlap flag data containing the hit word ([0095]-[0096]; [0101]-[0102]).

For example, the voice text data is divided up into voice sections (sentences) ([0085]), the image data are divided by image (drawings in the class material, etc.) on a clipboard shown to the students by the instructor ([0086]). The start time and end times that were added to the audio or video data as time stamps ([0085]; Fig. 10). This program 101207 extracts locations in the divided data with time stamps where the same term frequently occurs, for both the course materials as well as the review problem data. Video frame data for review problems linked to a review problem No. are created for locations where the frequently appearing words in the integrated data with-time-stamp matches the review problem data and course material data and this video frame data is stored in the hard disk 1013 ([0063]; Fig. 6). A word name, an appearance count, a time span start time, a time span end time are stored for each frequently appearing word in the data storage area in time span data word units (S3003) ([0093]; Fig. 11). The program 101207 extracts the time span where collation results show the same word frequently appears, storing it as word unit overlap flag data (S3002 to S3005) ([0100]; Fig. 12). Video frame data for a location corresponding to the time span of the integrated data is extracted from the above stored time span information of the drawing correlation data and the text correlation data. Using this data, video frame data matching the review problem and linked to the review problem number (No.) is generated and stored in the data storage area 101306 (S3012) ([0105]), and then present for the student to review.

According to the present invention, a frequency of appearances of a specified word in the text information is used to extract corresponding audio data per sentence and corresponding video data per image/drawing to present to a student. Therefore, the locations emphasized by the teacher becomes clear, and the point of lecture becomes clear. As such, the students can recognize the lecture with high accuracy, and the students can appropriately select points which are required for learning ([0139]-[0140]).

Applicants respectfully contend that none of the cited references teach or suggest “(1) storing said extracted words, said extracted time information, said extracted video information and said extracted audio information in a relationship **collating to** each other along a time axis **in time-spans during each of which the specified words frequently appear in said extracted text information** (claims 4 & 23); (2) extracting sections of video frame data contained in said selected lecture contents and **within time-spans during each of which the specified words frequently appear in said extracted text information**, and creating supplemental learning contents **based upon said sections of video frame data** to send to said student terminal (claims 21 & 23); (3) determining a tutoring start time by calculating an optimum time from desired tutoring times sent from the respective students included in the group (claims 8, 22 & 24); and (4) comparing a time span start time and a time span end time of each of said time-spans of said extracted video information and said extracted audio information, finding overlaps among said time spans, setting an **overlap flag** for each overlap among said time-spans, stores said overlap flag with said extracted video and audio information as overlap flag data, searching within said overlap flag data for a hit word contained in an instructional material and review problem contents, finding overlap flag data containing the hit word, and creating review problems based upon found overlap flag data containing the hit word (claims 20 & 25)” as the present invention.

Norcott only discloses a basic configuration of an e-learning system and selects the next question according to an answer of the first question. Morton was relied upon by the Examiner (p. 3, last para. of the outstanding Office Action) to teach extracting features of the present invention. However, Morton only extracts text data from video data, and provides choices of time intervals 330 which may be a link to short video data, but not executing the (1)-(4) features of the present invention.

Regarding to the (1) feature, Morton only extracts text data from video data (which is not integrated along a time axis). Morton does not “store information of text data, video data, audio data and digital board data in a relationship collating to each other along a time axis in time-spans during each of which the specified words frequently appear in said extracted text information” as in the present invention.

Regarding to the (2) feature, Morton only provides choices of time intervals 330 (Fig. 7) which may be short video data and are not divided. Morton does not “extract sections of video frame data contained in said selected lecture contents and within time-spans during each of which the specified words frequently appear in said extracted text information” as in

the present invention. Morton neither "create supplemental learning contents based upon said sections of video frame data to send to said student terminal" as in the present invention.

Regarding to the (3) feature, Morton simply does not determines an optimum tutoring start time as claimed.

Regarding the (4) feature, Morton does not disclose any overlap flag showing the unique relationship between the time spans of the text data, video data, audio data and digital board data.

The other cited references fail to compensate for Morton's deficiencies.

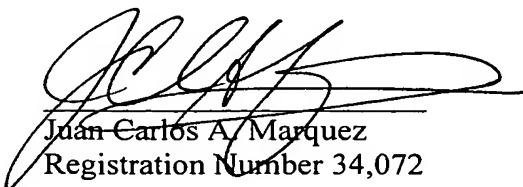
Applicants contend that neither Norcott, Morton, Remschel, nor their combinations teach or suggest each and every feature of the present invention as recited in independent claims 4, 21, and 23. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is thus respectfully solicited.

#### Conclusion

In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicants respectfully contend that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and telephone number indicated below.

Respectfully submitted,



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